From: <u>Wilson, Ashley</u>
To: <u>Wagner, Christine</u>

Cc: Non-responsive based on revised scope "; Scurato, Jesse; Van Reed, Paul
Subject: Case# 48100, SDG# MC0AM8 - Validated Data for Shiloh Church Road Site

Date: Friday, April 26, 2019 1:24:00 PM

Attachments: 48100 MC0AM8 ltr.pdf

image001.png

48100 MC0AM8 DVR.pdf 48100 MC0AM8 SSR.pdf EQUIS 1 48100 MC0AM8 VAL.xls EQUIS 2 48100 MC0AM8 VAL.xls EQUIS 3 48100 MC0AM8 VAL.xls EQUIS 48100 MC0AM8 VAL.xls

Christine Wagner US EPA Region 3 1650 Arch Street Philadelphia, PA 19103-2029

Christine,

Attached to this message you will find electronic files containing the validation report and validated data for Shiloh Church Road Site, Case# 48100, SDG# MC0AM8. The validation of this case was completed by the Region III Environmental Services Assistance Team (ESAT).

Please contact ESAT's RPO, Brandon McDonald by phone at 410-305-2607 or e-mail at McDonald.Brandon@epa.gov if additional assistance is needed.

TO # 0002 TDF # 0319024



Ashley Wilson | Research Technician | 410-305-3013 | Wilson.Ashley@epa.gov **ICF** | 701 Mapes Road, Fort Meade, MD 20755-5350

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION III



Environmental Sciences Center 701 Mapes Road Fort Meade, Maryland 20755-5350

DATE:

4/25/2019

SUBJECT: Region III Data QA Review

FROM:

Brandon McDonald

Region III ESAT RPO (3EA22)

TO:

CHRIS WAGNER

Hazardous Site Cleanup Division (HSCD)

Attached is the data validation report for the SHILOH CHURCH ROAD SITE site for RAS# 48100; SDG# MC0AM8 completed by the Region III Environmental Services Assistance Team (ESAT) contractor, ICF International, under the direction of Region III EAID.

If you have any questions regarding this review, please call Brandon McDonald at (410) 305-2607 or you can call Eric Graybill at (410)-305-2665.

Attachment

cc:

TO: #0002 TDF: #0319024



ICF ESAT Region 3

US Environmental Protection Agency Environmental Science Center

701 Mapes Road Ft. Meade, MD 20755-5350

Phone 410-305-3012

Date: April 24, 2019

To: Brandon McDonald

ESAT Region 3 Project Officer

From:

Validator

Reviewer

Subject: Inorganic Data Validation (S4VEM)

Shiloh Church Road Site

48100 MC0AM8

Overview

This data package consisted of two (2) drinking water samples, consisting a duplicate pair, analyzed for total metals by ICP-MS and for mercury (Hg) by cold vapor atomic absorption technique.

Analyses were performed by Chemtech Consulting Group (CHM) according to Contract Laboratory Program (CLP) Statement of Work (SOW) ISM02.4.

Data were validated according to the National Functional Guidelines for Inorganic Superfund Methods Data Review and applicable USEPA Region 3 modifications. Electronic validation was performed by the Electronic Data eXchange & Evaluation System (EXES). The validation report has been assigned the Superfund Data Validation Level Stage_4_Validation_Electronic_Manual (S4VEM).

The following validation narrative is an evaluation of laboratory reported data based on the hardcopy data package received by Region 3 on March 6, 2019.

The National Primary Drinking Water Regulations (NPDWRs) Action Level for lead (Pb) of 15 μ g/L was exceeded in drinking water sample MC0AM9 (sample location RW-017 (outdoors)) with a concentration of 25 μ g/L.

<u>Summary</u>

No significant data quality outliers or technical deficiencies were identified that would require rejection of sample results. Less significant data quality outliers requiring estimation of sample results were identified including, but not limited to, blank contamination as detailed below.

Minor Problem

Laboratory instrumentation reported negative values for chromium (Cr) greater than the absolute value of the Method Detection Limit (MDL) in blank analyses. The detected concentration reported in sample MCOAM9 which was less than the Contract Required Quantitation Limits (CRQL) was reported at the CRQL and qualified "UJ". The quantitation limit for sample MCOAM8 is estimated and qualified "UJ".

Notes

Analytes detected below Contract Required Quantitation Limits (CRQLs) not attributed to blank contamination are estimated and have been qualified "J".

Antimony (Sb) and Hg have been detected in laboratory blanks associated with the samples in this SDG. Samples which reported detected concentrations for these analytes less than the CRQL have been qualified "B" as reported.

Matrix spike, laboratory duplicate, Laboratory Control Sample and serial dilution analyses were within control limits.

Results reported for field duplicate pair MCOAM8/MCOAM9 were comparable, within control limits of 25 Relative Percent Difference (RPD) or <u>+</u> CRQL for all analytes except aluminum (Al), iron (Fe), lead (Pb), magnesium (Mg) and nickel (Ni). No data were qualified based on field duplicate precision.

Glossary of Inorganic Data Qualifier Codes

Glossal y o	Giossal y Of Morganic Data Qualifier Codes							
Validation Qualifiers	In order of descending precedence. Only one of these qualifiers may apply to any result.							
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.							
UJ	The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.							
U	The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit							
В	The result is presumed a blank contaminant. This qualifier is used for drinking water samples only.							
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.							
J+	The result is an estimated quantity, but the result may be biased high.							
J-	The result is an estimated quantity, but the result may be biased low.							

48100 MC0AM8 DCN: ESATR3-CY6-V510

Project Name: SHILOH CHURCH ROAD SITE Project GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group

Sample Number: LCS219 Method: Metals by ICP-MS Matrix: Water MA Number:

Sample Location: pH: 2 Sample Time: Sample Date:

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Spike	35.7		ug/L	35.7		1.0	YES	S4VEM
Antimony	Spike	3.6		ug/L	3.6		1.0	YES	S4VEM
Arsenic	Spike	1.8		ug/L	1.8		1.0	YES	S4VEM
Barium	Spike	19.2		ug/L	19.2		1.0	YES	S4VEM
Beryllium	Spike	1.9		ug/L	1.9		1.0	YES	S4VEM
Cadmium	Spike	1.9		ug/L	1.9		1.0	YES	S4VEM
Calcium	Spike	995		ug/L	995		1.0	YES	S4VEM
Chromium	Spike	3.7		ug/L	3.7		1.0	YES	S4VEM
Cobalt	Spike	2.0		ug/L	2.0		1.0	YES	S4VEM
Copper	Spike	3.9		ug/L	3.9		1.0	YES	S4VEM
Iron	Spike	362		ug/L	362		1.0	YES	S4VEM
Lead	Spike	1.9		ug/L	1.9		1.0	YES	S4VEM
Magnesium	Spike	1000		ug/L	1000		1.0	YES	S4VEM
Manganese	Spike	2.1		ug/L	2.1		1.0	YES	S4VEM
Nickel	Spike	2.1		ug/L	2.1		1.0	YES	S4VEM
Potassium	Spike	967		ug/L	967		1.0	YES	S4VEM
Selenium	Spike	9.2		ug/L	9.2		1.0	YES	S4VEM
Silver	Spike	2.2		ug/L	2.2		1.0	YES	S4VEM
Sodium	Spike	1010		ug/L	1010		1.0	YES	S4VEM
Thallium	Spike	1.9		ug/L	1.9		1.0	YES	S4VEM
Vanadium	Spike	10.1		ug/L	10.1		1.0	YES	S4VEM
Zinc	Spike	3.9		ug/L	3.9		1.0	YES	S4VEM

Project Name: SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group
Project

Sample Number: MC0AM8 Method: Mercury by Cold Vapor Matrix: Water MA Number:

Sample Location: RW-017 (indoors) pH: 2 Sample Date: 02/14/2019 Sample Time: 08:49:00

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.070	JВ	ug/L	0.070	J	1.0	YES	S4VEM

Project Name: SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group Project

Sample Number: MC0AM8 Method: Metals by ICP-MS Matrix: Water MA Number:

Sample Location: RW-017 (indoors) pH: 2 Sample Date: 02/14/2019 Sample Time: 08:49:00

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	20.0	U	1.0	YES	S4VEM
Antimony	Target	0.12	JB	ug/L	0.12	J	1.0	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Barium	Target	154		ug/L	154		1.0	YES	S4VEM
Beryllium	Target	0.50	J	ug/L	0.50	J	1.0	YES	S4VEM
Cadmium	Target	0.22	J	ug/L	0.22	J	1.0	YES	S4VEM
Calcium	Target	11600		ug/L	11600		1.0	YES	S4VEM
Chromium	Target	2.0	UJ	ug/L	2.0	U	1.0	YES	S4VEM
Cobalt	Target	0.28	J	ug/L	0.28	J	1.0	YES	S4VEM
Copper	Target	351		ug/L	351		1.0	YES	S4VEM
Iron	Target	189	J	ug/L	189	J	1.0	YES	S4VEM
Lead	Target	8.0		ug/L	8.0		1.0	YES	S4VEM
Magnesium	Target	2690		ug/L	2690		1.0	YES	S4VEM
Manganese	Target	25.0		ug/L	25.0		1.0	YES	S4VEM
Nickel	Target	2.1		ug/L	2.1		1.0	YES	S4VEM
Potassium	Target	3080		ug/L	3080		1.0	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Sodium	Target	12400		ug/L	12400		1.0	YES	S4VEM
Thallium	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Vanadium	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Zinc	Target	356		ug/L	356		1.0	YES	S4VEM

Project Name: SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group
Project

Sample Number: MC0AM8D Method: Mercury by Cold Vapor Matrix: Water MA Number:

Sample Location: pH: 2 Sample Date: 02/14/2019 Sample Time: 08:49:00

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.064	J	ug/L	0.064	J	1.0	YES	S4VEM

Project Name: SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group Project

Sample Number: MC0AM8D Method: Metals by ICP-MS Matrix: Water MA Number:

Sample Location: pH: 2 Sample Date: 02/14/2019 Sample Time: 08:49:00

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	20.0	U	1.0	YES	S4VEM
Antimony	Target	0.10	J	ug/L	0.10	J	1.0	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Barium	Target	150		ug/L	150		1.0	YES	S4VEM
Beryllium	Target	0.50	J	ug/L	0.50	J	1.0	YES	S4VEM
Cadmium	Target	0.21	J	ug/L	0.21	J	1.0	YES	S4VEM
Calcium	Target	11300		ug/L	11300		1.0	YES	S4VEM
Chromium	Target	0.10	J	ug/L	0.10	J	1.0	YES	S4VEM
Cobalt	Target	0.27	J	ug/L	0.27	J	1.0	YES	S4VEM
Copper	Target	366		ug/L	366		1.0	YES	S4VEM
Iron	Target	184	J	ug/L	184	J	1.0	YES	S4VEM
Lead	Target	7.7		ug/L	7.7		1.0	YES	S4VEM
Magnesium	Target	2810		ug/L	2810		1.0	YES	S4VEM
Manganese	Target	25.9		ug/L	25.9		1.0	YES	S4VEM
Nickel	Target	2.4		ug/L	2.4		1.0	YES	S4VEM
Potassium	Target	3240		ug/L	3240		1.0	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Sodium	Target	13100		ug/L	13100		1.0	YES	S4VEM
Thallium	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Vanadium	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Zinc	Target	373		ug/L	373		1.0	YES	S4VEM

Project Name: SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group Project

Sample Number: MC0AM8L Method: Metals by ICP-MS Matrix: Water MA Number:

Sample Location: pH: Sample Date: Sample Time:

% Moisture: % Solids:

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	100	U	ug/L	100	U	5.0	YES	S4VEM
Antimony	Target	10.0	U	ug/L	10.0	U	5.0	YES	S4VEM
Arsenic	Target	5.0	U	ug/L	5.0	U	5.0	YES	S4VEM
Barium	Target	152		ug/L	152		5.0	YES	S4VEM
Beryllium	Target	0.65	J	ug/L	0.65	J	5.0	YES	S4VEM
Cadmium	Target	5.0	U	ug/L	5.0	U	5.0	YES	S4VEM
Calcium	Target	11500		ug/L	11500		5.0	YES	S4VEM
Chromium	Target	10.0	U	ug/L	10.0	U	5.0	YES	S4VEM
Cobalt	Target	0.35	J	ug/L	0.35	J	5.0	YES	S4VEM
Copper	Target	359		ug/L	359		5.0	YES	S4VEM
Iron	Target	194	J	ug/L	194	J	5.0	YES	S4VEM
Lead	Target	8.0		ug/L	8.0		5.0	YES	S4VEM
Magnesium	Target	2760		ug/L	2760		5.0	YES	S4VEM
Manganese	Target	27.0		ug/L	27.0		5.0	YES	S4VEM
Nickel	Target	2.5	J	ug/L	2.5	J	5.0	YES	S4VEM
Potassium	Target	3250		ug/L	3250		5.0	YES	S4VEM
Selenium	Target	25.0	U	ug/L	25.0	U	5.0	YES	S4VEM
Silver	Target	5.0	U	ug/L	5.0	U	5.0	YES	S4VEM
Sodium	Target	12600		ug/L	12600		5.0	YES	S4VEM
Thallium	Target	0.40	J	ug/L	0.40	J	5.0	YES	S4VEM
Vanadium	Target	25.0	U	ug/L	25.0	U	5.0	YES	S4VEM
Zinc	Target	358		ug/L	358		5.0	YES	S4VEM

Page 6

Project Name: SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group Project

Sample Number: MC0AM8S Method: Mercury by Cold Vapor Matrix: Water MA Number:

Sample Location: pH: 2 Sample Date: 02/14/2019 Sample Time: 08:49:00

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Spike	0.98		ug/L	0.98		1.0	YES	S4VEM

Project Name: SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group Project

Sample Number: MC0AM8S Method: Metals by ICP-MS Matrix: Water MA Number:

Sample Location: pH: 2 Sample Date: 02/14/2019 Sample Time: 08:49:00

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Antimony	Spike	92.9		ug/L	92.9		1.0	YES	S4VEM
Arsenic	Spike	39.8		ug/L	39.8		1.0	YES	S4VEM
Barium	Spike	2240		ug/L	2240		1.0	YES	S4VEM
Beryllium	Spike	53.8		ug/L	53.8		1.0	YES	S4VEM
Cadmium	Spike	48.2		ug/L	48.2		1.0	YES	S4VEM
Chromium	Spike	215		ug/L	215		1.0	YES	S4VEM
Cobalt	Spike	544		ug/L	544		1.0	YES	S4VEM
Copper	Spike	644		ug/L	644		1.0	YES	S4VEM
Lead	Spike	26.7		ug/L	26.7		1.0	YES	S4VEM
Manganese	Spike	549		ug/L	549		1.0	YES	S4VEM
Nickel	Spike	558		ug/L	558		1.0	YES	S4VEM
Selenium	Spike	118		ug/L	118		1.0	YES	S4VEM
Silver	Spike	45.6		ug/L	45.6		1.0	YES	S4VEM
Thallium	Spike	46.0		ug/L	46.0		1.0	YES	S4VEM
Vanadium	Spike	530		ug/L	530		1.0	YES	S4VEM
Zinc	Spike	916		ug/L	916		1.0	YES	S4VEM

Project Name: SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group
Project SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8

Sample Number: MC0AM9 Method: Mercury by Cold Vapor Matrix: Water MA Number:

Sample Location: RW-017 (outdoors) pH: 2 Sample Date: 02/14/2019 Sample Time: 08:52:00

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.028	IB	110/L	0.028	Ĭ	1.0	YES	S4VEM

Project Name: SHILOH CHURCH ROAD SITE Project

GroupID: 48100/EPW14030/MC0AM8

Lab Name: Chemtech Consulting Group

Sample Number: MC0AM9

Method: Metals by ICP-MS

Matrix: Water

MA Number:

Sample Location: RW-017 (outdoors)

oors) pH: 2

Sample Date: 02/14/2019

Sample Time: 08:52:00

% Moisture:

% Solids:

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	62.1		ug/L	62.1		1.0	YES	S4VEM
Antimony	Target	0.080	JВ	ug/L	0.080	J	1.0	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Barium	Target	152		ug/L	152		1.0	YES	S4VEM
Beryllium	Target	0.58	J	ug/L	0.58	J	1.0	YES	S4VEM
Cadmium	Target	0.15	J	ug/L	0.15	J	1.0	YES	S4VEM
Calcium	Target	11600		ug/L	11600		1.0	YES	S4VEM
Chromium	Target	2.0	UJ	ug/L	0.43	J	1.0	YES	S4VEM
Cobalt	Target	0.17	J	ug/L	0.17	J	1.0	YES	S4VEM
Copper	Target	401		ug/L	401		1.0	YES	S4VEM
Iron	Target	663		ug/L	663		1.0	YES	S4VEM
Lead	Target	25.2		ug/L	25.2		1.0	YES	S4VEM
Magnesium	Target	1770		ug/L	1770		1.0	YES	S4VEM
Manganese	Target	25.7		ug/L	25.7		1.0	YES	S4VEM
Nickel	Target	29.1		ug/L	29.1		1.0	YES	S4VEM
Potassium	Target	3140		ug/L	3140		1.0	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Sodium	Target	12500		ug/L	12500		1.0	YES	S4VEM
Thallium	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Vanadium	Target	0.19	J	ug/L	0.19	J	1.0	YES	S4VEM
Zinc	Target	387		ug/L	387		1.0	YES	S4VEM

Project Name: SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group Project

Sample Number: PBW219 Method: Metals by ICP-MS Matrix: Water MA Number:

Sample Location: pH: 2 Sample Date: Sample Time:

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Aluminum	Target	20.0	U	ug/L	20.0	U	1.0	YES	S4VEM
Antimony	Target	2.0	U	ug/L	2.0	U	1.0	YES	S4VEM
Arsenic	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Barium	Target	10.0	U	ug/L	10.0	U	1.0	YES	S4VEM
Beryllium	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Cadmium	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Calcium	Target	37.1	J	ug/L	37.1	J	1.0	YES	S4VEM
Chromium	Target			ug/L	-0.11	J	1.0	YES	S4VEM
Cobalt	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Copper	Target	2.0	U	ug/L	2.0	U	1.0	YES	S4VEM
Iron	Target	200	U	ug/L	200	U	1.0	YES	S4VEM
Lead	Target	0.080	J	ug/L	0.080	J	1.0	YES	S4VEM
Magnesium	Target	500	U	ug/L	500	U	1.0	YES	S4VEM
Manganese	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Nickel	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Potassium	Target	30.7	J	ug/L	30.7	J	1.0	YES	S4VEM
Selenium	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Silver	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Sodium	Target	58.4	J	ug/L	58.4	J	1.0	YES	S4VEM
Thallium	Target	1.0	U	ug/L	1.0	U	1.0	YES	S4VEM
Vanadium	Target	5.0	U	ug/L	5.0	U	1.0	YES	S4VEM
Zinc	Target	2.0	U	ug/L	2.0	U	1.0	YES	S4VEM

Project Name: SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group
Project

Sample Number: PBW224 Method: Mercury by Cold Vapor Matrix: Water MA Number:

Sample Location: pH: 2 Sample Date: Sample Time:

Analyte Name	Analyte Type	Validation Result	Validation Flag	Units	Lab Result	Lab Flag	Dilution Factor	Reportable	Validation Level
Mercury	Target	0.020	J	ug/L	0.020	J	1.0	YES	S4VEM

Project Name: SHILOH CHURCH ROAD SITE GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group
Project

USEPA CLP COC (REGION COPY)

DateShipped: 15-Feb-19

AirbillNo: 7744 7838 1376

CarrierName: FedEx

CHAIN OF CUSTODY RECORD

Shiloh Church Road/VA
Case #: 48100
Cooler #: 1

No: 3-02-15-19-064756-0036

Lab: Chemtech Consulting Group

Lab Contact:

Lab Phone: 908-789-8900

Sample Identifier	CLP Sample No.	Matrix/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
SCR-021419-RW- 017	MC0AM8	Water/START	Grab	ICP-MS(21)	1830 (HNO3 to pH < 2) (1)	RW-017 (indoors)	02-14-2019 08:49	Field Sample
SCR-021419-RW- 017-D	MC0AM9	Water/START	Grab	ICP-MS(21)	1834 (HNO3 to pH < 2) (1)	RW-017 (outdoors)	02-14-2019 08:52	Field Duplicate of MC0AM8

Sample(s) to be used for Lab QC: SCR-021419-RW-017 Tag 1830 - Special Instructions: All water samples are DRINKING WATER samples.	Shipment for Case Complete? Y Samples Transferred From Chain of Custody #
Analysis Key: ICP-MS=TAL Metals+Hg by ISM02.4 (ICP-MS)	

Items/Reason	Relinquished by (Signature and Organization)	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt



US EPA Region 3 Analytical Request (ARF) Report

CT Number: $CT = \frac{CT8616}{CT \times CT8616}$ Date Receipt: $\frac{02/06/2019}{CT \times CT8616}$ Date Receipt: $\frac{02/06/2019}{CT \times CT8616}$ Date Receipt: $\frac{02/06/2019}{CT \times CT8616}$ Start: $\frac{02/11/2019}{CT \times CT8616}$ End: $\frac{02/22/2019}{CT \times CT8616}$ ARF Status: $\frac{COMPLETE}{CT \times CT8616}$

Site: SHILOH CHURCH ROAD SITE Site Activity: REMOVAL ASSESSMENT (RS) Program: SUPERFUND (RAS

AND/OR DAS)

Street: City: NATHALIE State: VA Zip: 24577

Account No: 2018-T-03-N-303DC6-A38Q-RS-00 SPILL ID: A38Q OPERABLE UNIT: 00 EPA ID (aka CERCLIS):

QA Title: QA Date Approved:

EPA Project Lead:	CHRIS WAGNER	Phone: 804-698-4164	Cell Phone #:	E-mail: WAGNER.CHRISTINE@EPA.GOV
Site Leader:	Non-responsive based on revised sop	Phone: Non-responsive based on rev	Cell Phone #:	E-mail Non-responsive based on revised scope
Request Preparer:	Non-responsive based on revised scope	Phone:	Cell Phone #:	E-mail Non-responsive based on revised scope
Contractor:		EPA CO/PO:		Equivalent method substitution allowed: <u>YES</u>

Special Instructions:

4 X 6-L BATCH CERTIFIED SUMMA CANISTERS EQUIPPED WITH 8-HOUR FLOW CONTROLLERS, AND 1 T-SPLITTER ARE REQUESTED IF EPA'S LAB CAN ACCEPT THE SAMPLES, THE FIELD TEAM LEAD WILL BE AVAILABLE TO PICK UP THE CANISTERS FROM FORT MEADE RESULTS FOR THE TO-15 ANALYSIS SHOULD BE REPORTED IN PPBV AS WELL AS UG/M3

Comments:

CONSIDERATIONS FOR TO-15 FROM NAOMI REID: •OASQA/ESAT WILL REPORT M AND P XYLENES WHICH ARE NOT SEPARATED, AS A TOTAL OF BOTH ISOMERS AT 1PPBV AND 0-XYLENE WILL BE REPORTED SEPARATELY

•METHY ACETATE, 1, 2-DIBROMO-3-CHLOROPROPANE, METHYLCYCLOHEXANE, AND CUMENE [ISOPROPYLBENZENE] WILL BE REPORTED AS TENTATIVELY IDENTIFIED COMPOUNDS (TICS) IF DETECTED THESE COMPOUNDS ARE NOT IN THE CURRENT CALIBRATION MIX

•BROMOCHLOROMETHANE IS IN THE REQUESTED ANALYTE LIST IT IS USED IN METHOD TO-15 AS AN INTERNAL STANDARD AND THEREFORE, CANNOT BE REPORTED AS AN ANALYTE OF INTEREST

RESPONSE FROM CHRIS WAGNER ON 2/12/19 WAS ACCEPTABLE ((KP)) 2/12/19

DAS	RAS	Lab Assigned	QTY	Matrix	Parameter	Requested Method	Accepted Method	Validation Level	Unvalidated Data Due	Final Report Due	EDD Required
R35511		OASQA ESAT	4	AIR (SUMMA CANISTER)	VOLATILE ORGANIC COMPOUNDS (VOC)	TO-15	TO-15	M3	21	45	Y
	48100	СНЕМ	6	DRINKING WATER	VOLATILE ORGANIC COMPOUNDS (VOC) TRACE	SOM02 4	SOM02 4	M3	21	45	Y
	48100	CHEM	2	DRINKING WATER	METALS (TOTAL)	ISM02 4 ICP-MS	ISM02 4 ICP-MS	IM2	21	45	Y
	48100	CHEM	2	DRINKING WATER	MERCURY (TOTAL)	ISM02 4	ISM02 4	IM2	21	45	Y

ESAT DATA VALIDATION EVALUATION CHECKLIST Contract # EP-W-13-023

TDF #: 0319024	Revision	n: 0	Case #: 48100	SDG: MC0AM8	
Site Name: Shiloh Church Road S	Site				
Parameter(s): ICP-MS, Mercury					
Method(s): ISM02.4					
Laboratory: CHM					
Reviewer:			Date Submitted to I	EPA:	
EPA RPM/OSC: Christine Wagn			Number of hours sp		
	(Weston)		Number of Samples	s/Aliquots: 2 / 4	
Validation Level/Stage: IM2/S4V	EM		EDD: YES		
<u>CRITERIA</u>	<u>YES</u>	<u>NO</u>		<u>COMMENTS</u>	
Format according to Region III protocol			_		
Clarity of report			_		
Qualifiers applied correctly					
Consistency between narrative and data summary form(s)					
Error-free transcription					
EFFICIENCY OF CONTRACTO	<u>PR</u>				
Approval recommended for current submission					
Time spent on review is reasonable			_		
Technical Evaluation					
Toomical Divardation			EPA Oversight		
ESD OVERSIGHT DATES	Т	PO	Oversight	ESAT	
Received at EPA			<u></u>		
Oversight assigned					
Oversight received					
Oversight completed					
Feedback given					
IVIDITED TO REIVI					

DVEPAEval_v2.docx Rev 1.: 11/6/17

Task Order #: 0002	TDF #: 0319024	Revision #: 0	Case/DAS #: 48100	
Site Name: Shiloh Churc	ch Road Site		SDG #: MC0AM8	
Analysis Type: ICP-MS,	Hg	SOW #: ISM02.4		
Reviewer:				
CLP Laboratory Code: C	CHM	•		

CDITEDIA	СНЕСК	CONANACNITO
CRITERIA EPA Oversight Checklist	CHECK	COMMENTS
TDF #	+	
Case #		
SDG #		
Site Name		
Laboratory		
EPA OSC/RPM		
Validation Type		
Narrative		
Report Header		
Report Footer		
Overview		
Laboratory		
Analytical method		
Analytical services program		
NFG reference		
Validation level		
Data package receipt date		
Criteria		
Qualifier list		
Appendix A		
Regional COC		
EPA ARF		
Appendix B		
Laboratory narrative		
Appendix C		
EXES report		

Task Order #: 0002 TDF #: Site Name: Shiloh Church Road Si	0319024 te	Revision #: 0	Case/DAS #: 48100 SDG #: MC0AM8
Analysis Type: ICP-MS, Hg		SOW #: ISM02	
Reviewer: Non-responsive based on revie			
CLP Laboratory Code: CHM			
•			
	<u>T(</u>	echnical-Inorganics	
Section	Check		Comments
Overview			
Matrix and # of samples			
Field QC samples			
Summary			
Major problems			
Minor problems			
Notes			
Compounds below CRQL			
Blank contaminants			
Field Duplicates			
Field/Rinsate Blanks			
Dilutions			
SSRs/Form Is			
EDD			
DV Item	Check	Qualifier Applied	Comments
Preservation/Holding Time			
Instrument Performance Check			
Calibration			
Blanks			
Interference Check Sample			
Serial Dilution			
Lab Duplicate			
MS/MSDs/PDS			
LCS/LCSDs			
Internal Standards			

ESAT Region 3/ICF

Date: _____

Peer Reviewed By:



ICF ESAT Region 3

US Environmental Protection Agency Environmental Science Center

701 Mapes Road Ft. Meade, MD 20755-5350

Phone 410-305-3012

Date: April 24, 2019

To: Christine Wagner

On-Scene Coordinator

From:

Data Reviewer

Subject: Notification Regarding Analytes Exceeding the Action Level for Drinking Water

Site: Shiloh Church Road Site Case: 48100 SDG: MCOAN8

The National Primary Drinking Water Regulations (NPDWRs) Action Level for lead (Pb) of 15 μ g/L was exceeded in drinking water sample MCOAM9 (sample location RW-017 (outdoors)) with a concentration of 25 μ g/L.

Page 1

Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Submission Group Id: 31138065	Organization: EPA Region 3	SOW: ISM02.4
	Holding Times Dues envetion	_
	HoldingTimes_Preservation	

NONE FOUND

Thu, 7 Mar 2019 12:56:40

GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Organization: EPA Region 3	SOW: ISM02.4
TUNE	
TONE	
	•

NONE FOUND

Thu, 7 Mar 2019 12:56:40

Page 3

Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Submission Group Id: 31138065	Organization: EPA Region 3	SOW: ISM02.4
	InitialCalibration	

NONE FOUND

Thu, 7 Mar 2019 12:56:40

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GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Organization: EPA Region 3	SOW: ISM02.4
ContinuingCalibrationVarification	
ContinuingCalibration verification	
	•

NONE FOUND

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Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Submission Group Id: 31138065	Organization: EPA Region 3	SOW: ISM02.4
	InitialCalibrationVerification	
	initial Cambration verification	

NONE FOUND

Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group

Submission Group Id: 31138065 Organization: EPA Region 3 SOW: ISM02.4

Blanks

Method - Metals by ICP-MS

Test Name: EXES-1342

Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs. - Drinking water samples – have been qualified "B" as reported

Associated Samples: MC0AM8, MC0AM9

Defective Analyte	Defective Samples/Analyses	
Antimony	MC0AM8, MC0AM9	

Test Name: EXES-476

Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs. Data not qualified due to ICBs

Associated Samples: MC0AM8, MC0AM9

Associated Samples. MedAirlo, MedAirlo		
Defective Analyte	Defective Samples/Analyses	
Antimony	MC0AM8, MC0AM9	

Test Name: EXES-478

Defect Message: The following samples have analyte results greater than CRQLs. The associated ICB analyte results are less than or equal to CRQLs. Use Professional Judgement to qualify detects. Data not qualified due to ICBs

Associated Samples: LCS219, MC0AM8, MC0AM8D, MC0AM8L, MC0AM8S, MC0AM9

Defective Analyte	Defective Samples/Analyses
Antimony	LCS219, MC0AM8S
Calcium	LCS219, MC0AM8, MC0AM8D, MC0AM8L, MC0AM9
Copper	LCS219, MC0AM8, MC0AM8D, MC0AM8L, MC0AM8S, MC0AM9
Lead	LCS219, MC0AM8, MC0AM8D, MC0AM8L, MC0AM8S, MC0AM9
Potassium	LCS219, MC0AM8, MC0AM8D, MC0AM8L, MC0AM9
Silver	LCS219, MC0AM8S
Sodium	LCS219, MC0AM8, MC0AM8D, MC0AM8L, MC0AM9

Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project

GroupID: 48100/EPW14030/MC0AM8

Lab Name: Chemtech Consulting Group SOW: ISM02.4

Submission Group Id: 31138065

Organization: EPA Region 3

Test Name: EXES-479

Defect Message: The following samples have analyte results greater than CRQLs. The associated CCB analyte results are less than or equal to CRQLs. Use Professional

Judgement to qualify detects. No Impact

Associated Samples: LCS219, MC0AM8, MC0AM8D, MC0AM8L, MC0AM8S, MC0AM9

Defective Analyte	Defective Samples/Analyses
Antimony	LCS219, MC0AM8S
Calcium	LCS219, MC0AM8, MC0AM8D, MC0AM8L, MC0AM9
Copper	LCS219, MC0AM8, MC0AM8D, MC0AM8L, MC0AM8S, MC0AM9
Lead	LCS219, MC0AM8, MC0AM8D, MC0AM8L, MC0AM8S, MC0AM9
Potassium	LCS219
Silver	LCS219
Sodium	LCS219, MC0AM8, MC0AM8D, MC0AM8L, MC0AM9
Thallium	LCS219, MC0AM8S

Test Name: EXES-508

Defect Message: The following samples have analyte results greater than CRQLs. The associated PB analyte results are less than or equal to CRQLs. Use Professional

Judgement to qualify detects. No Impact Associated Samples: MC0AM8, MC0AM9

Autorities and Autorities are an area and area area area area area area area are	
Defective Analyte	Defective Samples/Analyses
Calcium	MC0AM8, MC0AM9
Lead	MC0AM8, MC0AM9
Potassium	MC0AM8, MC0AM9
Sodium	MC0AM8, MC0AM9

Test Name: EXES-549

Defect Message: The following samples are associated with PB that has analyte results less than or equal to (-MDL) but greater than or equal to (-CRQL). Use

Professional Judgement to qualify detects and nondetects. < CRQL reported at DRQL and UJ, non detects UJ

Associated Samples: MC0AM8, MC0AM9

Associated Samples: MCUAMS, MCUAMS	
Defective Analyte	Defective Samples/Analyses
Chromium	MC0AM8, MC0AM9

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Data Validation Report Data Review Results

Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Submission Group Id: 31138065	Organization: EPA Region 3	SOW: ISM02.4
	Method - Mercury by Cold Vapor	

Test Name: EXES-506

Defect Message: The following samples have analyte results less than or equal to CRQLs. The associated PB analyte results are less than or equal to CRQLs. Detects are qualified as U. Sample results are reported at CRQLs. - Drinking water samples – have been qualified "B" as reported

Associated Samples: MC0AM8, MC0AM9

Associated Samples. MedAM2		
Defective Analyte	Defective Samples/Analyses	
Mercury	MC0AM8, MC0AM9	

Thu, 7 Mar 2019 12:56:40

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Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Submission Group Id: 31138065	Organization: EPA Region 3	SOW: ISM02.4
	InterferenceCheckSample	

NONE FOUND

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Thu, 7 Mar 2019 12:56:40

GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Organization: EPA Region 3	SOW: ISM02.4
Laboratory Control Comple	
LaboratoryControlSample	
	•

NONE FOUND

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Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Submission Group Id: 31138065	Organization: EPA Region 3	SOW: ISM02.4
	MatrixSpikes	
	WattixSpikes	

NONE FOUND

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Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Submission Group Id: 31138065	Organization: EPA Region 3	SOW: ISM02.4
	SerialDilution	

NONE FOUND

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Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Submission Group Id: 31138065	Organization: EPA Region 3	SOW: ISM02.4
	InternalStandard	
	Three harstandard	

NONE FOUND

Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group

Submission Group Id: 31138065 Organization: EPA Region 3 SOW: ISM02.4

TargetAnalyteQuantitation

Method - Metals by ICP-MS

Test Name: EXES-790 Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified as estimated J. Associated Samples: MC0AM8, MC0AM8D, MC0AM8L, MC0AM9, PBW219		
Defective Analyte	Defective Samples/Analyses	
Antimony	MC0AM8, MC0AM8D, MC0AM9	
Beryllium	MC0AM8, MC0AM8D, MC0AM8L, MC0AM9	
Cadmium	MC0AM8, MC0AM8D, MC0AM9	
Calcium	PBW219	
Chromium	MC0AM8D, MC0AM9, PBW219	
Cobalt	MC0AM8, MC0AM8D, MC0AM8L, MC0AM9	
Iron	MC0AM8, MC0AM8D, MC0AM8L	
Lead	PBW219	
Nickel	MC0AM8L	
Potassium	PBW219	
Sodium	PBW219	
Thallium	MC0AM8L	
Vanadium	MC0AM9	

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Data Validation Report Data Review Results

Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Submission Group Id: 31138065	Organization: EPA Region 3	SOW: ISM02.4
		_
	Method - Mercury by Cold Vapor	

Test Name: EXES-790

Defect Message: The following samples have analyte results greater than or equal to detection limit (MDL) and below quantitation limit (CRQL). Detects are qualified

as estimated J.

Associated Samples: MC0AM8, MC0AM8D, MC0AM9, PBW224

11550 Clared Samplest Mediator, Medi	
Defective Analyte	Defective Samples/Analyses
Mercury	MC0AM8, MC0AM8D, MC0AM9, PBW224

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Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group	
Submission Group Id: 31138065	Organization: EPA Region 3	SOW: ISM02.4	
	Duplicates		

NONE FOUND

Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project GroupID: 48100/EPW14030/MC0AM8 Lab Name: Chemtech Consulting Group

Submission Group Id: 31138065 Organization: EPA Region 3 SOW: ISM02.4

SampleAnalysis

Method - Metals by ICP-MS

Test Name: EXES-866			
Defect Message: The following I	Defect Message: The following ICV/ICB and CCV/CCB have the incorrect ResultType under the Analyte node. Detects are not qualified.		
Associated Samples:			
Defective Analyte	Defective Samples/Analyses		
Aluminum	CCB093, CCB094, CCB095, LB100983ICB		
Arsenic	CCB093, CCB094, CCB095, LB100983ICB		
Barium	CCB093, CCB094, CCB095, LB100983ICB		
Beryllium	CCB093, CCB094, CCB095, LB100983ICB		
Cadmium	CCB093, CCB094, CCB095, LB100983ICB		
Chromium	CCB094, CCB095, LB100983ICB		
Cobalt	CCB093, CCB094, CCB095, LB100983ICB		
Iron	CCB093, CCB094, CCB095, LB100983ICB		
Magnesium	CCB093, CCB094, CCB095, LB100983ICB		
Manganese	CCB093, CCB094, CCB095, LB100983ICB		
Nickel	CCB093, CCB094, CCB095, LB100983ICB		
Potassium	CCB094, CCB095		
Selenium	CCB093, CCB094, CCB095, LB100983ICB		
Silver	CCB094, CCB095		
Thallium	LB100983ICB		
Vanadium	CCB093, CCB094, CCB095, LB100983ICB		
Zinc	CCB093, CCB094, CCB095, LB100983ICB		

does not impact sample data

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Thu, 7 Mar 2019 12:56:40

Project Name: SHILOH CHURCH ROAD SITE Project	GroupID: 48100/EPW14030/MC0AM8	Lab Name: Chemtech Consulting Group
Submission Group Id: 31138065	Organization: EPA Region 3	SOW: ISM02.4
	Method – Mercury by Cold Vapor	

Test Name: EXES-866 Defect Message: The following ICV/ICB and CCV/CCB have the incorrect ResultType under the Analyte node. Detects are not qualified. Associated Samples:	
Defective Analyte	Defective Samples/Analyses
Mercury	CCB085, CCB086, LB100896ICB

does not impact sample data

From:

To: McDonald, Brandon

Cc: Wagner, Christine; Non-responsive based on revised scope

Non-responsive based on revised scop

Subject: Notification Regarding Analytes Exceeding the Action Limit for Drinking Water for RAS case 48100 - Shiloh

Church Road

Date: Wednesday, April 24, 2019 1:19:00 PM
Attachments: HealthAdvisory 48100 MC0AM8.pdf

image003.png



ESAT Region 3 US EPA Environmental Science Center 701 Mapes Road Fort Meade, MD 20755-5350 410-305-3020